

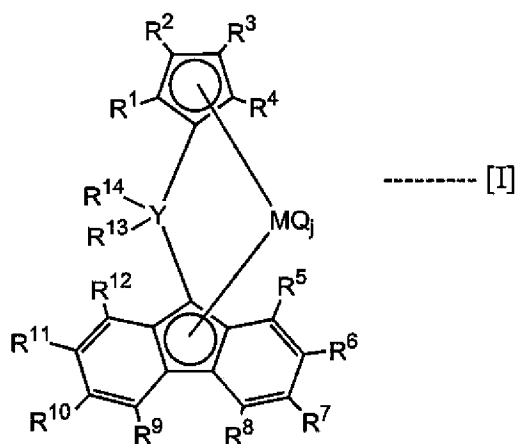
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A process for producing an olefin polymer, comprising:
carrying out solution polymerization of ethylene and one or more kinds of monomers selected from α -olefins at a temperature ranging from 120 to 300°C, wherein the charge mole ratio of ethylene and α -olefin is in the range of ethylene: α -olefin = 50:50 to 99.9:0.1, in the presence of a catalyst for olefin polymerization, said catalyst consisting essentially of:

(A) a bridged metallocene compound represented by a general formula [I] described below,



wherein R^1 , R^2 , R^3 , R^4 , R^5 , R^8 , R^9 , and R^{12} are each a hydrogen atom, a hydrocarbon group, or a silicon-containing group, and may be identical or different, or neighboring groups

may be bonded together to form a ring structure;

R^6 and R^{11} are identical to each other and are each a hydrogen atom, a hydrocarbon group, or a silicon-containing group, or may be bonded together to form a ring structure;

R^7 and R^{10} are identical to each other and are a hydrogen atom, a hydrocarbon group, or a silicon-containing group, or may be bonded together to form a ring structure;

R^6 , R^7 , R^{10} and R^{11} are not simultaneously hydrogen atoms;

R^{13} and R^{14} are each an aryl group, and may be identical or different;

M represents Ti, Zr or Hf;

Y represents carbon or silicon;

Q represents halogen, a hydrocarbon group, an anionic ligand, or a lone electron pair, and may be selected from an identical or different combination of neutral ligands capable of coordination; and

j is an integer of 1 to 4, and

(B) at least one or more kinds of compounds selected from the group consisting of

(b-1) an organoaluminum oxy-compound, and

(b-3) an organoaluminum compound, wherein said organoaluminum compound is

selected from the group consisting of trimethylaluminum, triethylaluminum, tri(n-butyl)aluminum, trihexylaluminum, trioctylaluminum, triisopropylaluminum, triisobutylaluminum, tri(sec-butyl)aluminum, tri(tert-butyl)aluminum, tri(2-methylbutyl)aluminum, tri(3-methylhexyl)aluminum, tri(2-ethylhexyl)aluminum, tricyclohexylaluminum, tricyclooctylaluminum, triphenylaluminum, tritolylaluminum, diisopropylaluminumhalide, diisobutylaluminumhalide,

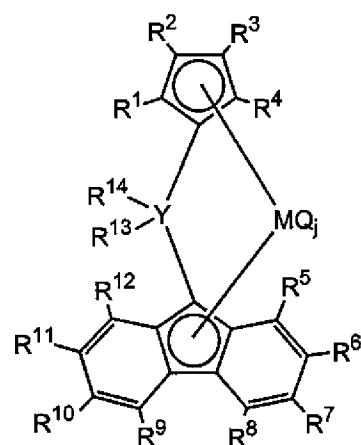
isoprenylaluminum represented by general formula $(i-C_4H_9)_xAl_y(C_5H_{10})_z$ wherein x,
y, and z are positive integers, and z is in the range of $z < 2x$,
isobutylaluminummethoxide, isobutylaluminumethoxide,
dimethylaluminummethoxide, diethylaluminumethoxide, dibutylaluminumbutoxide,
ethylaluminumsesquiethoxide, butylaluminumsesquibutoxide, partially alkoxylated
alkylaluminum having mean compositions represented by general formula
 $R_{2.5}^aAl(OR^b)_{0.5}$, diethylaluminumphenoxide, diethylaluminum(2,6-di-t-butyl-4-
methylphenoxide), dimethylaluminumchloride, diethylaluminumchloride,
dibutylaluminumchloride, diethylaluminumbromide, diisobutylaluminumchloride,
ethylaluminumsesquichloride, butylaluminumsesquichloride,
ethylaluminumsesquibromide, ethylaluminumdichloride, diethylaluminumhydride,
dibutylaluminumhydride, ethylaluminumdihydride, propylaluminumdihydride,
ethylaluminummethoxychloride, butylaluminumbutoxychloride,
ethylaluminummethoxybromide, $LiAl(C_2H_5)_4$, $LiAl(C_7H_{15})_4$, and
 $(C_2H_5)_2AlN(C_2H_5)Al(C_2H_5)_2$.

2. (Canceled)

3. (Previously Presented) A process for producing an olefin polymer, comprising:

carrying out solution polymerization of ethylene and one or more kinds of monomers selected from α -olefins at a temperature ranging from 120 to 300°C, in the presence of a catalyst for olefin polymerization, said catalyst comprising:

(A) a bridged metallocene compound represented by the general formula [I] described below,



wherein R¹, R², R³, R⁴, R⁵, R⁸, R⁹ and R¹² are each a hydrogen atom, a hydrocarbon group, or a silicon-containing group, and may be identical or different, or neighboring groups may be bonded together to form a ring structure;

R⁶ and R¹¹ are identical and are each a hydrocarbon group or a silicon-containing group, or may be bonded together to form a ring structure;

R⁷ and R¹⁰ are identical to each other and are each a hydrocarbon group or a silicon-containing group, or may be bonded together to form a ring structure;

R¹³ and R¹⁴ are each an aryl group, and may be identical or different;

M is Ti, Zr or Hf;

Y represents carbon or silicon;

Q represents halogen, a hydrocarbon group, an anionic ligand, or a lone electron pair, and may be selected from an identical or different combination of neutral ligands capable of coordination; and

- j is an integer of 1 to 4, and
- (B) at least one compound selected from the group consisting of
- (b-1) an organoaluminum oxy compound,
- (b-2) a compound which reacts with the bridged metallocene compound (A) to form an ion pair, and
- (b-3) an organoaluminum compound.
4. (Previously Presented) The process of claims 1 or 3, wherein M represents Zr or Hf.